REMARKS

The claims are claims 1, 2, 4 and 6 to 10.

Claims 1, 2, 4 and 6 to 10 were rejected under 35 U.S.C. 103(a) as made obvious by the combination of Liang et al U.S. Patent No. 5,732,086 and Lambrecht et al U.S. Patent No. 6,549,954.

Claims 1 and 7 recite subject matter not made obvious by the combination of Liang et al and Lambrecht et al. Claims 1 and 7 each recite "at least one supervisory data processing node periodically transmitting a receipt acknowledge data packet to each other data processing node." This recitation differs from the teachings of Liang et al in at least two ways.

First, this language recites "periodically." This means repetitively at the end of a time period. Liang et al does not teach transmitting his initiation message periodically. Liang et al teaches this transmission upon the occurrence of specific events. Liang et al states at column 5, lines 59 to 62:

> "The above messages are dispatched and handled upon the occurrence of an 'event'. Those events are as follows; initialization; disconnection; time out; node isolated; node admitted; link failed and link added."

Thus Liang et al teaches transmitting the initiation message at differing times than recited in claims 1 and 7. The Applicants respectfully submit that Liang et al fails to teach that the claimed transmission occur "periodically." The FINAL REJECTION cites no portion of Lambrecht et al as allegedly making obvious this subject matter. Accordingly, claims 1 and 7 are not made obvious by the combination of Liang et al and Lambrecht et al.

Second, this language recites "to each other data processing node." Liang et al teaches transmission of his initiation message

to only the adjacent nodes and not to "each other" node as recited in claims 1 and 7. Liang et al states at column 6, lines 1 to 3:

> "The INIT message is transmitted by each initializing node to notify its neighbors about its existence and to ask for admittance to the network."

Liang et al fails to teach that any node receiving such an INIT message forwards it to another node. Upon network initialization before all the links are known, a node cannot forward a message. Thus Liang et al teaches transmission of his INIT message to a different group of other nodes (neighboring nodes) than the group of nodes recited in claims 1 and 7 (each other node). In contrast, claims 1 and 7 recite "transmitting a receipt acknowledge data packet to each other data processing node." Such a transmission to all other node cannot take place before the supervisory data processing node knows of the existence of all other nodes. Thus claims 1 and 7 require knowledge of the network not present to the initiating node according to the teachings of Liang et al. The FINAL REJECTION cites Lambrecht et al for its teaching that "any data processing node can transmit a data packet to any destination data processing node for forwarding by other data processing nodes to the destination data processing node." The Applicants dispute that this disclosure is relevant. Liang et al teaches transmitting the INIT signal to all adjacent nodes at a time when the transmitting data processing node has no knowledge of the network and cannot specify nodes other than its adjacent nodes. Liang et al teaches this process enables each node to determine the network topology so that it can specify non-adjacent destination nodes. Thus the cited teaching of Lambrecht et al is inapplicable to this teaching of Liang et al. Accordingly, claims 1 and 7 are not made obvious by the combination of Liang et al and Lambrecht et al.

Claims 2 and 8 recite subject matter not made obvious by the combination of Liang et al and Lambrecht et al. Claims 2 and 8 each recite "storing health data at each data processing node concerning the current health operating status of that data processing node." Liang et al states at column 14, lines 21 to 22 (within the portion cited in the FINAL REJECTION):

> "constructing and storing in said memory, a topology table to include data from received ACK msgs"

This topology table of Liang et al indicates only whether a node has received a response to its INIT message from its neighboring nodes. Thus this data concerns the neighboring nodes. This topology table does not concern the health of the current node. This application states at page 20, lines 15 to 18:

> "An ailing node could be identified by non-nominal health parameters in the check-up confirmation receipt. A dead node could even fail to bounce any receipt 1203 back to the supervisor node."

This portion of the application indicates that this invention contemplates a node may be ailing but not both dead and incapable of responding to a receipt confirmation data packet. Liang et al fails to include any teaching of storing such data. The FINAL REJECTION cites no portion of Lambrecht et al as allegedly making obvious this subject matter. Accordingly, claims 2 and 8 are not made obvious by the combination of Liang et al and Lambrecht et al.

Claims 2 and 8 recite further subject matter not made obvious by the combination of Liang et al and Lambrecht et al. Claims 2 and 8 each recite "transmitting an acknowledge data packet including the stored health data." Liang et al states at column 14, lines 16 to 20 (within the portion cited in the FINAL REJECTION):

> "receiving an acknowledgement message ACK msg from each connected and operable neighbor node, each ACK msg including a neighbor node link identifier for the link over which said ACK msg was transmitted to said originating node"

This data concerns "the link over which said ACK msg was transmitted to said originating node" from a neighboring node and has nothing to do with the health of that node. Thus claims 2 and 8 recite transmission of an acknowledgement message including different information than that taught in Liang et al. The FINAL REJECTION fails to allege that Lambrecht et al includes any teaching to make obvious this limitation of claims 2 and 8. Accordingly, claims 2 and 8 are not made obvious by the combination of Liang et al and Lambrecht et al.

Claims 4 and claim 9 recite subject matter not made obvious by the combination of Liang et al and Lambrecht et al. Claim 4 recites "not routing the received data packet to the current data processing node or to any adjacent output connected node if the header of the data packet includes a node ID not matching the node ID of the data processing node or the stored indication of node IDs for any adjacent output connected node." Claim 9 similarly recites "not routing the received data packet to the current data processing node or to any output port if the header of the data packet includes a node ID not matching the node ID of the data processing node or the stored indication of node IDs for any output port." The OFFICE ACTION cites Liang et al at column 6, lines 22 to 26 and 31 to 32 as making obvious this subject matter. The cited portion of Liang et al at column 6, lines 31 and 32 states:

> "(4) if Dest node is not recognizable, the message is forwarded to the neighbor nodes as in case (2)."

The Applicants understand that the Examiner equates the destination node is "not recognizable" with the language "not matching the node ID of the data processing node or the stored indication of node IDs for any output port" of claims 4 and 9. Claims 4 and 9 recite the receiving node does not forward the data packet under these conditions. In contrast, the reference to case (2) appearing at column 6, lines 22 to 26 of Liang et al reveals conditions under which Liang et al would forward the message. This portion of Liang et al states:

> "(2) if Dest node equals All nodes and the topology row field in the received message is different from the corresponding row in the topology table maintained in the receiving node, the message is forwarded to all immediate neighbor nodes except the previous sender"

Thus Liang et al teaches a different response to a not recognizable/not matching message than that recited in claims 4 and 9. The FINAL REJECTION cites Lambrecht et al at column 2, lines 22 to 26, lines 51 to 54 and column 11, lines 55 to 61 as making obvious this limitation of claims 4 and 9. The Applicants respectfully submit that these portions of Lambrecht et al teach ordinary routing when the destination is known and not the limitation recited in claims 4 and 9. Lambrecht et al states at column 2, lines 22 to 32 (including a portion cited in the FINAL REJECTION):

> "In one embodiment, each of the routing nodes is directly connected to two or more other routing nodes, and each of the routing nodes is operable to communicate data. A plurality of buses connects between each of the routing nodes. Each of the plurality of modules is coupled to at least one of the plurality of routing nodes, and the plurality of modules are operable to communicate with each other through the routing nodes. Furthermore, the plurality of routing nodes is dynamically re-configurable to form two or more separate communication paths."

This portion of Lambrecht et al teaches routing without teaching what action the node would take if the communication routing structure is not recognized. Lambrecht et al states at column 2, lines 50 to 62 (including a portion cited in the FINAL REJECTION):

> "A first processing module generates an object for transfer to another processing module. The first processing module transfers the object to a first routing node. The first routing node receives the object and examines the communication routing data structure to determine the destination of the object based on the tag included in the object. The first routing node determines the destination of the object and routes the object based on the destination. Preferably routing operates to transfer the object to its destination. In other cases, routing operates to transfer the object along its way towards the destination in an appropriate fashion. Additional routing nodes also operate to route the object to its destination."

This portion of Lambrecht et al teaches routing without teaching what action the node would take if the "communication routing data structure" identifying the "destination of the object" is not recognized. Lambrecht et al states at column 11, lines 51 to 65 (including a portion cited in the FINAL REJECTION):

> "The first routing node 220/222/225X receives the object 510 and examines the communication routing data structure, the object ID, or the processing list to determine the destination of the object 510 based on the tag 511 included in the object 510. The first routing node 220/222/225X determines the next destination of the object 510 and routes the object 510 based on the destination. Preferably routing operates to transfer the object 510 to its destination. In other cases, routing operates to transfer the object 510 along its way towards the destination in an appropriate fashion. Routing over a network to a destination is well known in the art and will not be further detailed herein. Additional routing nodes 220/222/225/Y/Z also operate to route the object 510 to its destination."

This portion of Lambrecht et al teaches routing presuming that the destination is known and does not teach what action the node would take if the destination is not known. The Applicants submit that Lambrecht et al fails to teach action taken by a node if a destination address does not match that node ID or any stored node ID. Accordingly, claims 4 and 9 are not made obvious by the combination of Liang et al and Lambrecht et al.

Claims 6 and 10 recite subject matter not made obvious by the combination of Liang et al and Lambrecht et al. Claims 6 and 10 each recite "at each data processing node employing a program running on the CPU core to periodically reset a timer in the bridge circuit and using the bridge circuit to not route any received data packet to the current data processing node or to any adjacent output connected node upon expiration of a time of the timer, whereby a data processing node having a failed CPU core absorbs all received data packets." This differs from the teaching of Liang et al in at least two ways.

Firstly, claims 6 and 10 recite a different time out function than that taught in the combination of Liang et al and Lambrecht et al. The OFFICE ACTION cites claims 2 and 3 of Liang et al as making obvious the recitation of not routing any data packets to the current node upon expiration of the timer. The Applicants respectfully submit that the time out in the cited portion of Liang et al differs from the time out recited in claims 6 and 10. Liang et al teaches "associating a null value" in the topology table upon failure to receive an ACK message from a node in response to an INIT message. This process clearly involves two nodes within the network, a first node originating an INIT message and a second node responding with an ACK message. In contrast, claims 6 and 10 recite a single node where the CPU resets a timer in the bridge circuit of the same node. Thus this function differs from and is

not made obvious by the combination of Liang et al and Lambrecht et al.

Secondly, the claimed action taken differs from the action taught in the combination of Liang et al and Lambrecht et al. The OFFICE ACTION cites the first logic means of claim 1 of Liang et al as making obvious the action taken in response to a time out. This portion of claim 1 of Liang et al teaches storing a topology table based upon receipt or non-receipt of ACK messages from nodes adjacent to the originating node. Upon failure to receive an ACK message within the time allowed, Liang et al teaches placing a null value in the topology table for nonresponding nodes. This topology table is transmitted to all active nodes. Such an entry in the topology table prevents other nodes from sending messages to the nulled node. In contrast, the recitations of claims 6 and 9 recite preventing routing a received data packet within the node and preventing forwarding the data packet to another node upon the time out. The language "whereby a data processing node having a failed CPU core absorbs all received data packets" is key here. In Liang et al a node not responding and thus causing the cited time out would never be sent a message because its node ID would not be in the topology table. Claims 6 and 10 recite that the timed out node may receive a data packet but can't use it or forward it. The FINAL REJECTION fails to allege that Lambrecht et al includes any teaching to make obvious this limitation of claims 6 and 10. Accordingly, claims 6 and 10 are not made obvious by the combination of Liang et al and Lambrecht et al.

The Applicants respectfully submit that all the present claims are allowable for the reasons set forth above. Therefore early entry of this amendment, reconsideration and advance to issue are respectfully requested.

If the Examiner has any questions or other correspondence regarding this application, Applicants request that the Examiner contact Applicants' attorney at the below listed telephone number and address to facilitate prosecution.

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Respectfully submitted,

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